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REMARKS

In the Amendments to the Specification and Amendments to the Claims, changes are indicated by ~~strikethrough~~ for deleted matter and underlining for added matter, except that for deletions of five characters or fewer, or where ~~strikethrough~~ cannot be easily perceived, [[double brackets]] are used, or alternatively extra portions of text are included before and after text being deleted, all in ~~strikethrough~~, followed by the changed portion and extra text all underlined.

For clarity, the headings used in these remarks conform generally to the presentation of the Examiner's rejections and comments in the Detailed Action. In this response, references to line numbers are to the specification and claims as they were prior to any amendments referred to herein.

Oath/Declaration

The Applicant is concurrently filing a Supplementary Inventor's Declaration to address the concerns raised by the Examiner.

Drawings

The Applicant has submitted replacement drawings as requested by the Examiner, and awaits confirmation that the replacement drawings have been approved and entered. Old Figures 12 and 13 were photographs of a prototype unit, which the Applicant found difficult to reproduce in better quality. As these photographs did not add any useful information to the application, they have been removed, and the remaining figures renumbered accordingly. A new Figure has been added, with the renumbering this new Figure has become Figure 17. The new Figure is intended to illustrate the "sensor array" described and claimed. It is respectfully submitted that although the Figure is new, this should not be considered new matter as it references directly to the existing text.

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Disclosure

The amendments to the Disclosure arise out of two drawing changes. Firstly, amendments were required when the photographs in Fig. 12 and Fig. 13 were removed from the application, in order to correct references to renumbered Figures. Secondly, with the addition of Figure 17, reference numerals were placed into the existing text to tie the existing text to the new Figure. Thirdly, the Applicant has numbered the pages.

Claim Objections

As suggested by the Examiner, the Applicant has changed the term "know" to --known-- in claims 5, 9, 14, and 17. Claim 19 has been cancelled.

Allowable Subject Matter

The Applicant acknowledges the Examiner's statement that claims 3 and 16 would be allowable if rewritten in independent form, and to expedite examination the Applicant has placed claim 3 in condition for allowance by placing it in independent form. Similarly, the Applicant has placed claim 14 in suitable condition for allowance by inserting the subject matter of claim 16 into claim 14. With the amendment of claim 14, claim 16 is redundant and has been cancelled from the Application. Claims 15, 17, and 18 all depend from claim 14 and, as such, are now believed to be in suitable condition for allowance.

Claim Rejections – 35 USC §102**U.S. Patent No. 5,719,396 (Jack et al.)**

The Examiner has rejected claims 1, 11, and 14 as being anticipated by Jack et al.

The Applicant respectfully submits that the spatial temporal analysis as taught by Jack et al. does not anticipate claim 1. Jack et al. disclose monitor stations set up along a path to quantify emissions from moving vehicles. Emission quantity readings are taken at two locations to essentially average out the variability in vehicle emissions (as disclosed, for example, at column 6, lines 3 to 8) that may result from factors such as acceleration and deceleration of the vehicle in question (as disclosed, for example, at

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column 4, lines 1 to 8). In accordance with Jack et al., pictures are taken of the vehicle to confirm the connection between the plume and the vehicle. The "spatial temporal analysis" therein refers to the spacing of the monitor stations and the time the car takes to pass the two measurement points; Jack et al. teach taking readings of the emitting source (that is, the vehicle) using two monitor stations to eliminate variability of emissions over time (as disclosed, for example, at column 6, lines 15 to 21), and the analysis is conducted to get two emissions readings from the same vehicle as it passes by each of the two monitor stations.

In contrast, the spatial temporal analysis of the present invention involves the analysis of changing air concentrations of a compound over time. Whereas Jack et al. teach measurement of emissions concentrations of a plume as it passes each monitor station, in the present application information about the concentration changes over time is used to identify a plume's characteristics (such as location and size). The spatial analysis of the present application applies the temporal analysis described above at two or more locations some distance apart. In the horizontal plane, the emitting source location is derived by triangulating the plume directions derived in the temporal analysis as vectors projected back to where they intercept at the location of the source. This spatial temporal analysis is described on paragraph [0037] of the application:

If data were collected in many locations then the directions provided can be used to pin point the sources location by over laying the directions. [...]

Lines struck in the direction to a point source from the centroid of several finite elements will cross at the location of the point source.

The Applicant has amended claim 1 to reflect the disclosure in these passages, and respectfully submits that amended claim 1 is not anticipated by Jack et al. As claims 11 and 14 depend from claim 1, the Applicant respectfully submits that they too are not anticipated by Jack et al.

U.S. Patent No. 5,106,756 (Zaromb)

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The Examiner has also rejected claims 1, 2, 4-10, 12, 15, 17, and 19-25 as being anticipated by Zaromb. *Inter alia*, the Examiner has stated that, at column 3, lines 44-67, "Zaromb discloses performing a spatial temporal emission concentration analysis to identify the source of emissions".

The Applicant respectfully submits that the subject matter of amended claim 1 is not anticipated by Zaromb. The Applicant notes that nowhere in the Zaromb disclosure is there any teaching of the identification of the source of emissions. Accordingly, if the Examiner continues to reject amended claim 1 on the basis that Zaromb discloses such source identification, the Applicant respectfully requests that the Examiner specify and/or explain where such disclosure of source identification appears.

As Zaromb does not teach that element of amended claim 1, Zaromb does not anticipate amended claim 1. It is therefore respectfully submitted that amended claim 1 is in condition for allowance and claims 2 and 4-12, all of which depend from amended claim 1, are also in condition for allowance. As amended claims 15 and 17 depend from amended claim 14, which also recites this element, the Applicant respectfully submits that they too are in condition for allowance. Finally, as claims 19-25 have been cancelled, the Applicant does not address the Examiner's rejections thereof.

Claim Rejections – 35 USC §103

The Examiner has rejected claims 13 and 26 on the basis that Zaromb in view of Mifsud (U.S. Patent No. 5,918,257) renders them obvious. The Applicant respectfully submits that as claim 13 depends from allowable amended claim 1 and therefore covers patentable subject matter, claim 13 is in condition for allowance irrespective of Mifsud. The Applicant further notes that claim 26 has been cancelled.

New Claim 27

In addition to amendments to existing claims and cancellation of some of the original claims, the Applicant has added new claim 27. New claim 27 has been added to claim subject matter already disclosed in the application. As the application discloses that mobile as well fixed monitors may be used in the present invention (at paragraph

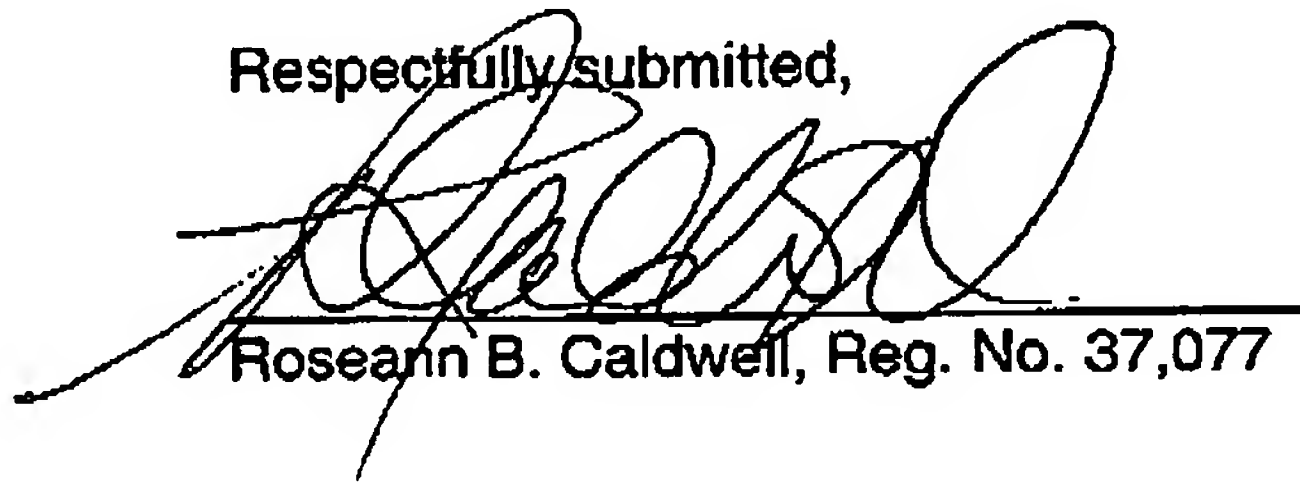
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[0006]), new claim 27 claims similar subject matter to allowable amended claim 1 but without the limitation of fixed monitors about a facility. No new matter is added.

Continued prosecution of this application is respectfully requested.

Respectfully submitted,



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